REMARKS

I. Status of the Claims

Claims 1-17 are pending. Applicants amend claims 1, 4, 7, 8, 9, and cancel claim 14. Amended claim 1 incorporates the limitations of claim 14. Claims 7-9 are amended to provide proper antecedent basis. Applicants also amend claim 4; support for the amendment is on page 8, lines 22-23.

Upon entry of the amendment, claims 1-13 and 15-17 will remain for consideration.

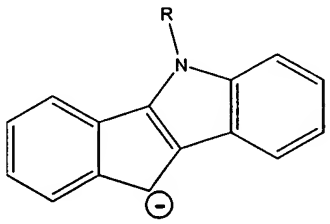
II. Response to the Rejection under 35 U.S.C. § 112

Applicants thank the Examiner for pointing to the insufficient antecedent basis for "the support material" and in this response amend claim 4 to provide sufficient basis. Applicants respectfully ask the Examiner to enter the amendment and withdraw the rejection.

III. Response to the Rejection under 35 U.S.C. § 102(b) based on Nagy

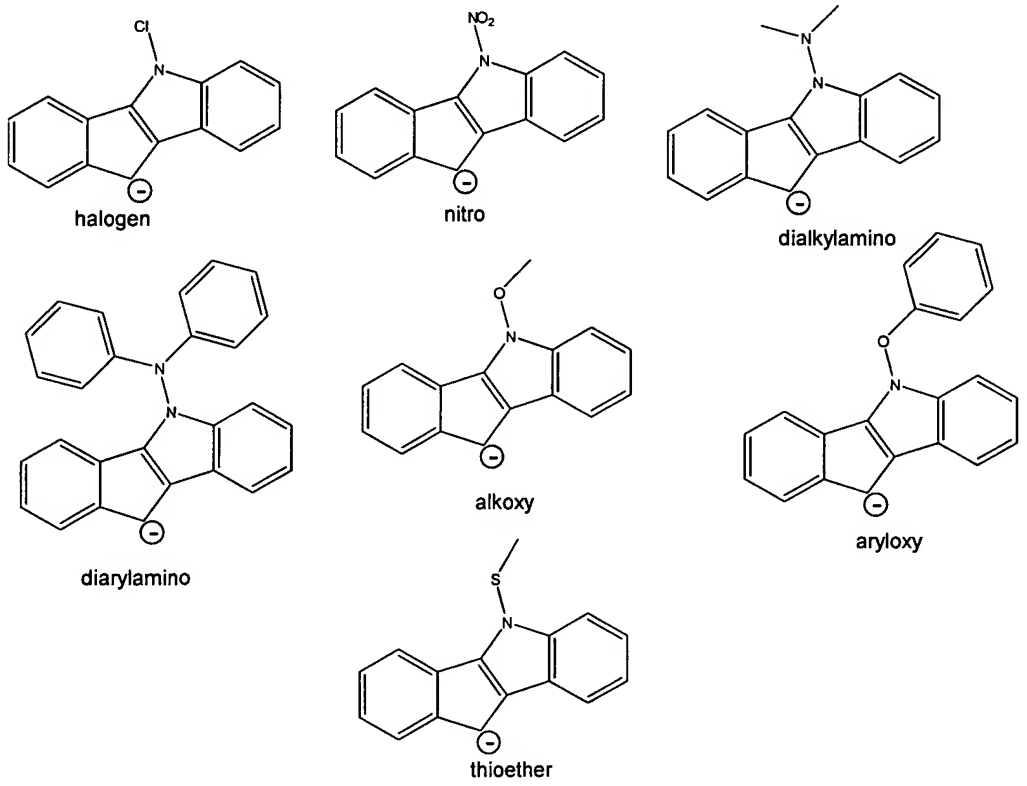
Applicants traverse the rejection of claims 1-3 and 5-17 under 35 U.S.C. § 102(b) as being anticipated by Nagy et al. (U.S. Pat. No. 6,232,260) and respectfully ask the Examiner to reconsider and withdraw the rejection in view of the amendment and the following remarks.

Nagy's claim 7 has "*the general structure*:



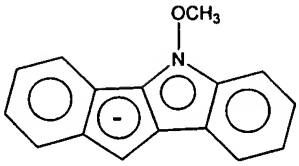
in which each ring atom is unsubstituted or substituted with one or more alkyl, aryl, aralkyl, halogen, silyl, nitro, dialkylamino, diarylamino, alkoxy, aryloxy, or thioether groups." R is not further defined.

If we interpret R to be from the same list as the ring substituents, exemplary structures from Nagy '260 where R is halogen, nitro, dialkylamino, diarylamino, alkoxy, aryloxy, or thioether are shown below:

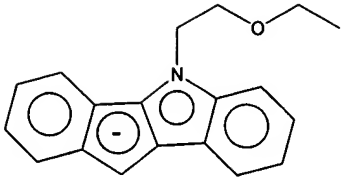


In contrast, Applicants' claimed process, as currently amended, requires the substituent on the indole nitrogen to be a carbon substituent ("R_1 is a C_2-C_{30} radical") wherein the carbon substituent contains an atom selected from the group consisting of S, O, P, and N. See, in particular, the exemplary indenoindolyl ligands shown on page 7 of the application, all of which show the S, O, P, or N attached to a carbon substituent, which is in turn attached to the indolyl nitrogen. Nagy does not teach these structures.

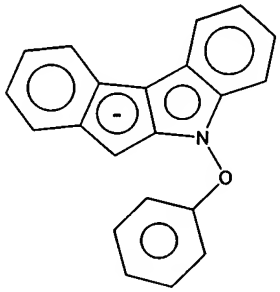
Compare:



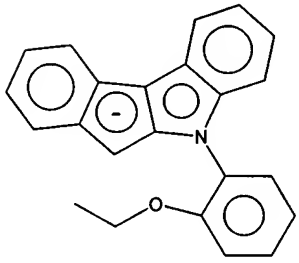
Nagy '260 ligand:
indolyl N attached to O



Applicants' ligand:
indolyl N attached to C



Nagy '260 ligand:
indolyl N attached to O



Applicants' ligand:
indolyl N attached to C

Applicants' now-claimed process is not taught by Nagy. Nothing in the prior art would motivate a skilled person to use the particular ligands required by Applicants' claims instead of the ones taught in Nagy '260. The high polymer molecular weight obtained by Applicants' claimed process is surprising and unexpected in view of Nagy. Before Applicants' invention, making high molecular weight polymers with indenoindolyl complexes generally required synthesizing a bridged complex; now, the more easily made unbridged complexes can be used. See Table 1 (p. 18) and the accompanying discussion in the application. Obviously, identifying particular catalysts and processes capable of delivering high molecular weight is valuable to polyolefin manufacturers. Without Applicants' valuable disclosure, those skilled in the art--including readers of Nagy '260--are deprived of the specific knowledge needed to achieve these results. Applicants respectfully ask the Examiner to reconsider and withdraw the 102(b) rejection.

IV. Response to the Rejection under 35 U.S.C. § 102(a) based on Wang

Applicants traverse the rejection of claims 1-17 under 35 U.S.C. § 102(a) as unpatentable over Wang et al. (U.S. Pat. No. 6,583,242) and respectfully ask the Examiner to reconsider and withdraw the rejection in view of the amendments and the following remarks.

The Examiner points out that Wang uses the organometallic complexes taught in U.S. Pat. No. 6,232,260 (Nagy et al.) in combination with a support. As discussed in the previous section of this response, Nagy does not teach the complexes used in Applicants' now-claimed process. Therefore, Wang, which incorporates Nagy's teachings about complexes by reference, also cannot anticipate Applicants' claimed process.

Moreover, Wang provides no independent basis for anticipation; it fails to anticipate for the same reasons as Nagy '260. In particular, Wang is missing any disclosure of the now-claimed ligand structure in which the indolyl nitrogen is bonded through a carbon substituent to N, O, S, or P. The Examiner should reconsider and withdraw the 102(a) rejection.

V. Conclusion

Applicants respectfully ask the Examiner to enter the amendment, reconsider and withdraw the rejections under Sections 112, 102(b), and 102(a), and pass the case to issue. Applicants invite the Examiner to telephone their attorney at (610) 359-2276 if he believes that a discussion of the application might be helpful.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, P.O. Box. 1450, Alexandria, VA 22313-1450 on March 28, 2005.

Jonathan L. Schuchardt
Name of person signing

Jonathan L Schuchardt
Signature

Respectfully submitted,

Sandor Nagy et al.

By: Jonathan L Schuchardt

Jonathan L. Schuchardt
Reg. No. 34,428
Attorney for Applicant(s)
Lyondell Chemical Company
3801 West Chester Pike
Newtown Square, PA 19073
Phone (610) 359-2276
Customer Number 24114
March 28, 2005